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ABSTRACT

This curriculum guide for nutrition education grade 4, was designed to incorporate knowledge of thirteen concepts into the child's decision-making processes as a food consumer. These concepts, as covered by the guide, are: affecting bodily well-being through nutrition; affecting dental health through nutrition; models for diet selection; controlling bacterial growth in foods; how to keep foods safe temporarily; treating foods to prolong safe usage; ethnic food traditions; family food customs; effects of peer influence on food habits; effects of advertising on food choices; supply of money affects food choices; accessibility of food affects food choices; preparing foods in different ways. Each concept is taught in one lesson which can usually be accomplished in about a half hour. Several duplication masters are included. (RE)

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Making Nutrition Education Count

A GUIDE FOR NUTRITION EDUCATION K-6

MINNESOTA STATE DEPARTMENT
OF EDUCATION
VOCATIONAL-TECHNICAL DIVISION
CAPITOL SQUARE BUILDING
SAINT PAUL, MINNESOTA

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Making Nutrition Education Count A Guide for Nutrition Education K-6

JULY 1975

Prepared by Patricia Kratky, R.D. and Lois Haigh with assistance in development of the curriculum format from LaVonne Eisbernd.

The curriculum has been developed as a Pilot Project with funds provided by the Minnesota State Department of Vocational Education under the direction of Audrey Grote, Vocational Program Supervisor, Consumer-Homemaking, in cooperation with the Clay County Vocational Cooperative Center. The project administrator was Melvin O. Salberg.

CLAY COUNTY VOCATIONAL COOPERATIVE CENTER
2323-16 Avenue South, Moorhead, MN 56560

We wish to thank the K-3 teachers in Barnesville, Dilworth, Glyndon-Felton and Hawley elementary schools for their consideration and help during the testing period for the project.

Special thanks are extended to Thomas Sandhei, principal, and the faculty at Sharp Elementary school in Moorhead for their time and effort in teaching these lessons as a part of the testing process.

Many suggestions from all of these teachers have been incorporated into the lessons contained in this curriculum.

When duplicating these materials please give credit to Clay County Vocational Cooperative Center and the authors -- Thank you.

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MAKING NUTRITION EDUCATION COUNT

Only a half century ago, the science of nutrition was born in test tubes and animal experiments. Early knowledge demonstrated the effect of nutrition on health with remarkable clarity. Recent research has expanded the consequences of inadequate nutrition. Using recent accurate information to influence personal habits demands that the information be presented to every individual in an understandable and meaningful manner.

An infant's eating patterns becomes the adult's eating habits. The longer an imperfect pattern is continued, the more difficult it becomes to incorporate accurate information into the pattern. Helping the *elementary* student to incorporate accurate nutrition information into his life style becomes the goal of nutrition education.

Today's child has significant control over his eating pattern. Breakfast foods are often chosen by children. Family values toward sleep and family schedules may force the child to prepare breakfast for himself. Pocket money is often spent for self-selected snacks and meals. Some children prepare meals when the pressure of family schedules allow only individual sandwich meals. Nutrition education must influence these existing areas of decision for children to be meaningful to them.

WHAT IS NEEDED

Many factors influence an individual's dietary decisions. Thirteen of these factors were included in the concepts for this curriculum. While the concepts are related to each other, a given progression is not necessary to build to the final decision-making skill. The concepts follow groupings: affecting the health of the individual, the individual's social background and the individual's personal resources.

CONCEPTS AFFECTING THE HEALTH OF THE INDIVIDUAL

Affecting bodily well-being through nutrition
Affecting dental health through nutrition
Models for diet selection
Controlling bacterial growth in foods
How to keep foods safe temporarily
Treating foods to prolong safe usage

CONCEPTS AFFECTED BY SOCIAL BACKGROUND

Ethnic food traditions
Family food customs
Effects of peer influence on food habits
Effects of advertising on food choices

CONCEPTS AFFECTING PERSONAL RESOURCES

Supply of money affects food choices.
Accessibility of food affects food choices
Preparing food in different ways

HOW TO FIT IT IN

Each concept is taught in one lesson which usually is finished in slightly more than one half hour. More than one concept is taught in some lessons. The primary grades develop awareness in each of the factors influencing nutrition. The upper elementary grades apply and strengthen this awareness.

Concepts affecting health integrate into existing curricula for health and science. Careers in health and food production are also identified.

Each grade level has a different set of activities designed for that grade level's interests and traditional activities. Each activity builds upon skills gained in the preceding grade's activity for that concept. These are exemplary lessons and may need to be adapted for use in a specific classroom.

Each lesson involves an activity. All activities involve oral communication skills. Some activities use illustrative, dramatic, or written skills. The skill required by the activity depends upon the students level of knowledge.

SYMBOLS

Each lesson plan uses symbols to indicate

materials needed

reference materials for student use -- books in large italic capitals -- films, filmstrips, pamphlets in italic.

outline of teaching procedure

outline of student activities

BACKGROUND INFORMATION for the teacher's use and RECIPES are included when necessary.

EQUIPMENT

Each school should make available to every classroom upon need:

dish sponge
mild detergent
wax paper
several sets of graduated measuring cups and spoons
liquid measuring cups
paper towels
large bowl (4 quart)
small bowl (2 quart)
large stirring spoon
covered pitchers
rubber scrapers
hot pads
electric fry pan or selection of covered saucepans and hot plate
manual can openers
disposable dishes and silver as needed
laminated National Dairy Council Food Models

Other equipment will be needed as each lesson indicates.

Plans for a portable mini-kitchen will be available after January 1, 1976.

GRADE 4

LESSON CONCEPT	PAGE NUMBER
Affecting bodily well-being through nutrition	4-1
Models for diet selection	4-8
Family food traditions	4-12
The accessibility of foods influences ethnic food customs	4-13
Supply of money affects food choices	4-22
Affecting dental health through nutrition	4-32
Treating foods to prolong safe usage	4-37
Storage conditions affect egg cookery	4-40
Effect of peer influences on food habits	4-43

CONCEPT: Affecting bodily well-being through nutrition

GENERALIZATION: Nutrients from foods perform specific functions in the body. Foods are grouped according to nutrients contained in them.

BEHAVIORAL OBJECTIVE: The student will demonstrate ability to match food groupings and functions by constructing and playing the Food Cube Game.

* *

--Heavy paper which can be used on duplicating machine
Food cube pattern (attached)
Food tokens (attached)
Score cards (attached)
A 3 pound coffee can to be used as a shaker for the food cubes
Pictures of foods (attached)

--*"Be Aware of Good Nutrition"* (poster)
Kansas City Wheat Commission
1021 North Main Street
Hutchinson, KS 67501

--Duplicate materials for making and playing the Food Cube Game. Print pattern for cubes on heaviest paper possible.

Present reference materials and review the four food groups. To fill the remaining sides of the cubes, two groups of foods which contribute other nutrients are added: fats and sugars, and water. Foods which are very juicy or watery are classified as water.

Food containing large amounts of sugar, e.g. candy, and those which contain fats, e.g. butter, salad dressing, are to be put in the fats and sugars group.

Have students name some foods which are found in each of the food groups including sugars, fats, and water.

--Construct food cubes, score cards, and food tokens.

On one cube paste or draw pictures representing each of the six groups.

On the second cube paste the names of the food groups. On the third cube paste the functions of the food groups. (Do not write the names of the food groups on the cubes.)

Play the game according to attached directions.

FOOD CUBE GAME DIRECTIONS

GETTING READY

Make a set of three cubes.
You can play by yourself or with others.
Each player needs a score card.
Put food tokens in the center of the table.
Put the three cubes into the coffee can shaker.

PLAYING

Toss the three cubes. You may have three tries to match all three cubes. After the first toss decide which cube you are going to try to match and toss the other cube(s). Toss again if necessary. If you don't match all three cubes in three tries, pass the cubes to the next player.

If you match the cubes, choose a food token. Place it in its group on your score card.

WINNING

The winning player has all six food group spaces filled in on the score card.

FUNCTIONS TO BE PUT ON FOOD CUBES

MEAT GROUP
Gives energy and builds and repairs the whole body

MILK GROUP
Gives energy and helps build teeth and bones

FRUIT AND VEGETABLE GROUP
Gives energy and helps keep a person well

BREAD AND CEREAL GROUP
Gives energy, builds blood and aids digestion

SUGARS AND FAT GROUP
Gives quick energy

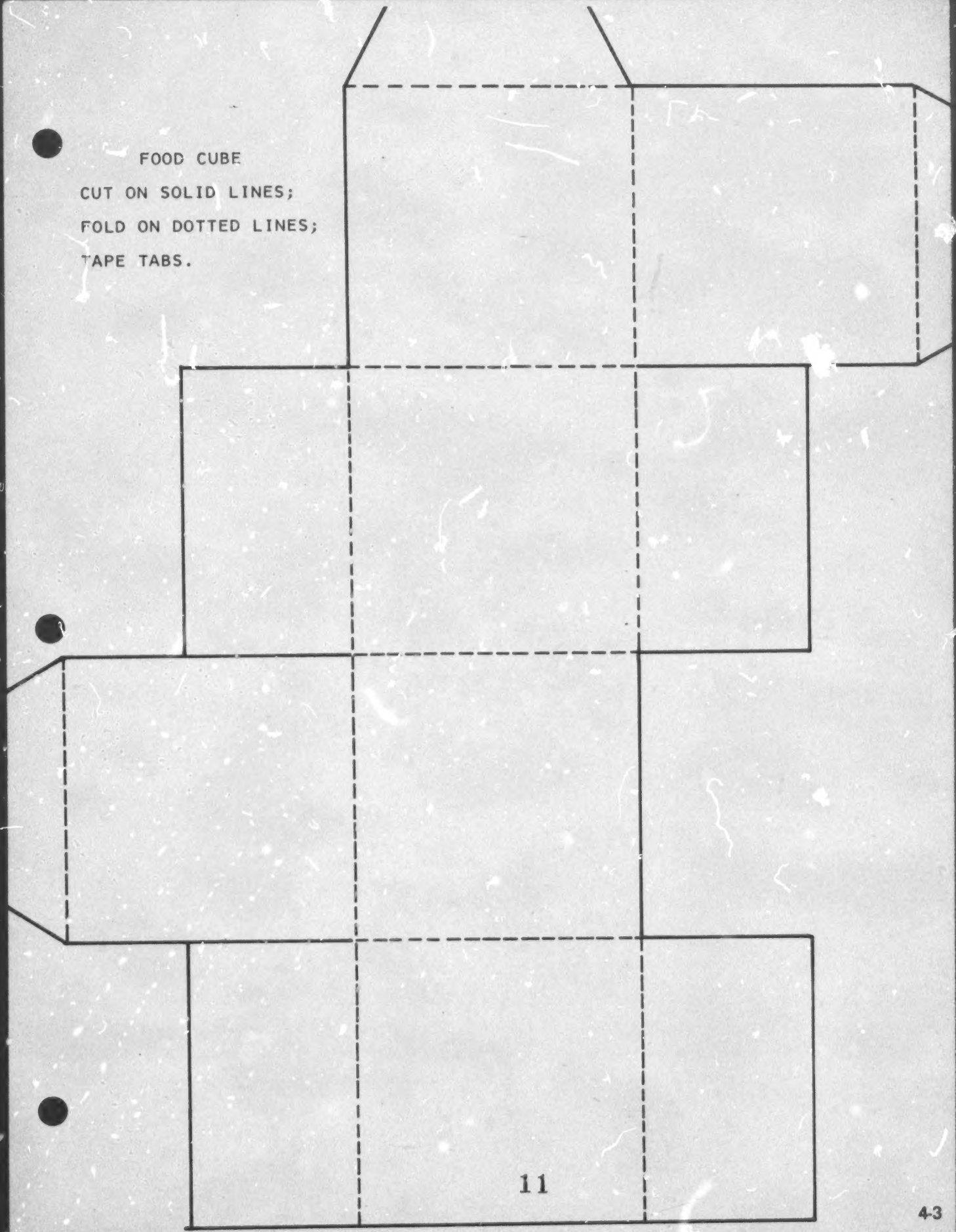
WATER
Helps all body functions

FOOD CUBE

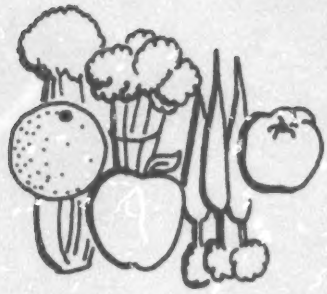
CUT ON SOLID LINES;

FOLD ON DOTTED LINES;

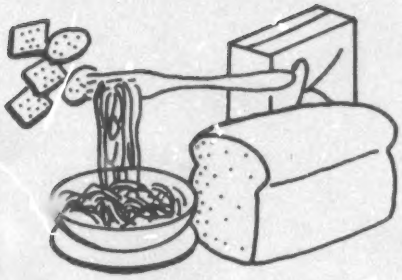
TAPE TABS.



PICTURES FOR FOOD CUBES

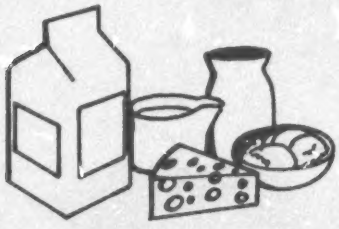


VEGETABLE GROUP



BREAD-CEREAL GROUP

MEAT GROUP

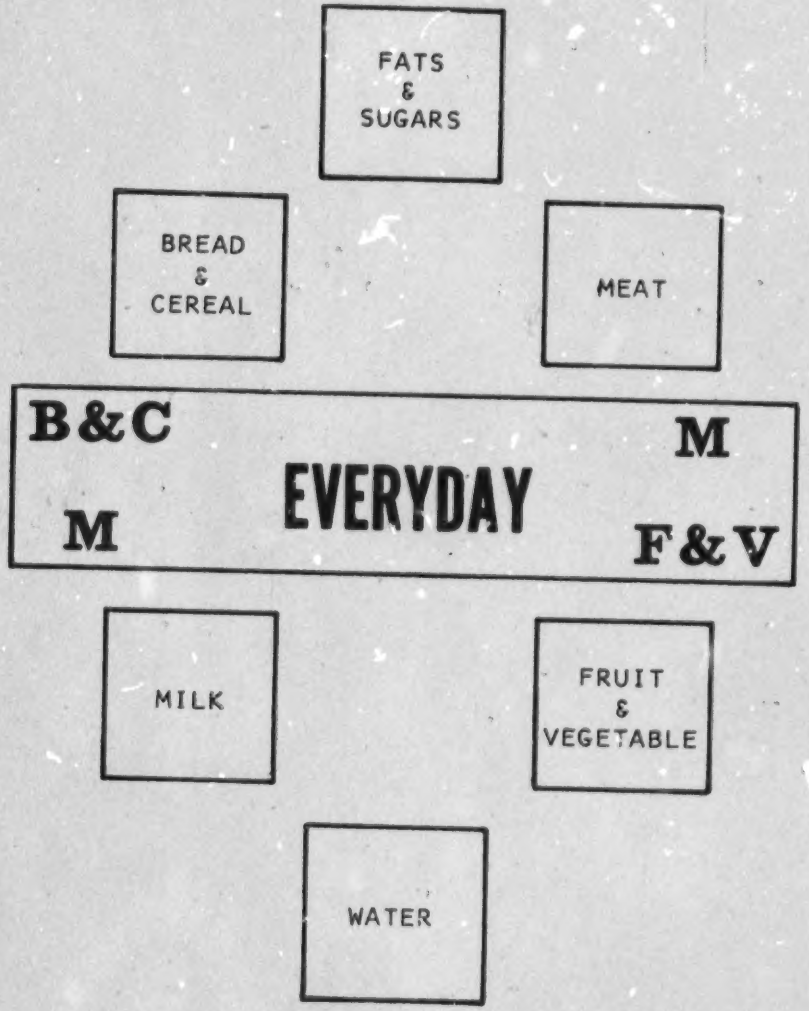


MILK GROUP

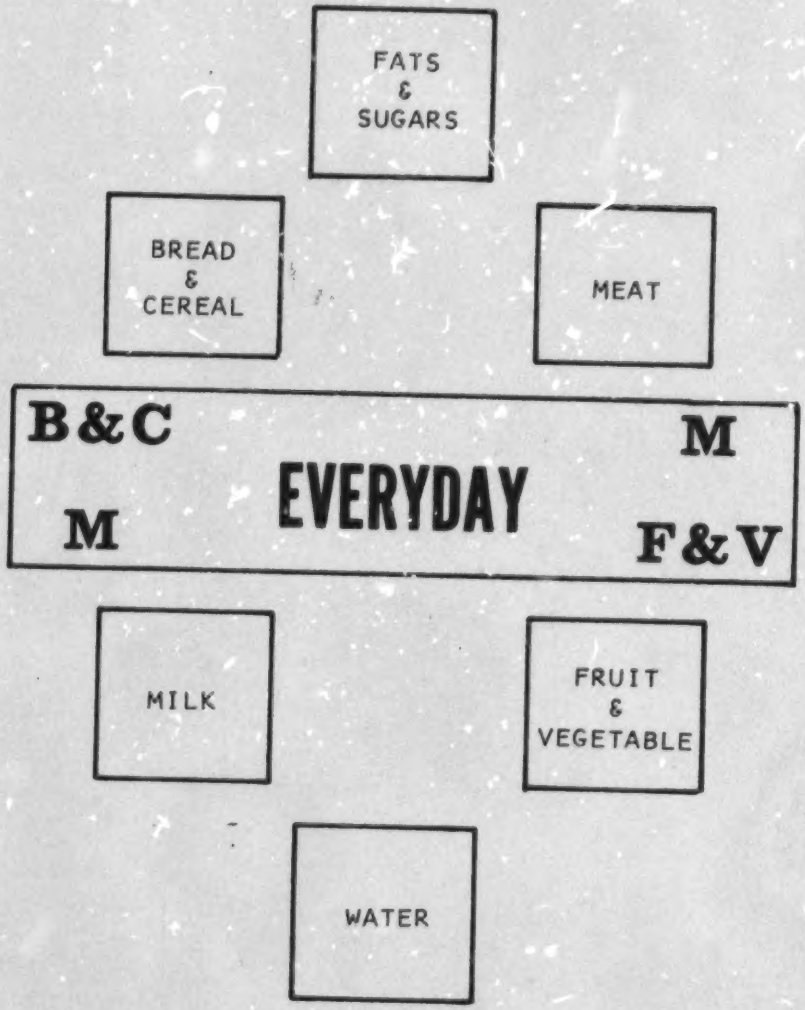
FATS-SUGARS GROUP

WATER

FOOD CUBE SCORECARD



FOOD CUBE SCORECARD



KEY TO PLACING TOKENS IN GROUPS

FATS AND SUGARS

Butter
Margarine
Cooking oil
Lard
French Salad Dressing
Mayonnaise
Blue Cheese Salad Dressing
Bacon fat
Italian Salad Dressing
Candy bar
Gum drops
Marshmallows
Fudge
Jelly beans
Frosting
Pop
Caramels
Chocolate syrup
Jelly
Gelatin
Popsicle
Maple syrup
Fruit drink

FRUITS AND VEGETABLES

Cauliflower
Celery
Carrots
Cantaloupe
Blueberries
Broccoli
Cabbage
Spinach
Sweet potatoes
Peaches
Apple
Pears
Green beans
Orange
Pineapple

WATER

Water
Maple syrup
Cocoa
Milk
Popsicle
Milkshake
Pop

BREAD AND CEREAL

White bread
Whole wheat bread
Toast
Bun
Spaghetti
Tortilla
Waffle
Pancake
Crackers
Oatmeal
Corn flakes
Cornbread
Biscuit
Rice
Noodles
Macaroni
Sweet roll

MILK

Milk
Yogurt
Ice cream
Cheese
Cream cheese
Milkshake
American cheese
Cottage cheese
Cocoa
Chocolate pudding
Cream of tomato soup

MEATS

Peanut butter
Eggs
Chicken
Beef
Ham
Fish
Sausage
Ham
Pork chop
Tuna
Wiener
Pork and beans
Peanuts

Some foods are listed in two groups. They may be placed in either group.

FOOD TOKENS

Cocoa	Pineapple	Cheese	Chocolate Pudding	Milkshake	Cream of Tomato Soup	FREE	FREE
Peaches	Milk	Ice Cream	Yogurt	American Cheese	Cottage Cheese	FREE	FREE
Cabbage	Spinach	Sweet Potatoes	Orange	Apple Juice	Peas	Green Beans	Candy Bar
Popsicle	Fruit Drink	Marshmallows	Jelly	Pork and Beans	Peanuts	Gum Drops	Chocolate Syrup
Pork Chop	Ham	Maple Syrup	Frosting	Jelly Beans	Fudge	Sausage	Fish
Broccoli	Cauliflower	Celery	Carrots	Beef	Gelatin	Wiener	Tuna
Oatmeal	Bun	Toast	Waffle	Pop	Blueberries	Cantaloupe	Caramels
Blue Cheese Salad Dressing	Sweet Roll	Biscuit	Tortilla	Pancake	Crackers	Corn Flakes	Cornbread
Whole Wheat Bread	French Salad Dressing	Macaroni	Peanut Butter	Egg	Chicken	Rice	Noodles
Butter	Margarine	Cooking Oil	Lard	Bacon Fat	Spaghetti	White Bread	Italian Salad Dressing

CONCEPT: Models for diet selection

GENERALIZATION: The number of servings of foods from the four food groups is different for different ages so that use of a food guide is recommended for daily menu planning.

BEHAVIORAL OBJECTIVE: The student will select the required amounts of food needed daily for various ages using the Food Guide.

* *

--Copies of the Food Guide (attached)
Standard measuring cups
Scales that weigh ounces

--*"Be Aware of Good Nutrition"* (poster)
Kansas Wheat Commission
1021 North Main Street
Hutchinson, KS 67501

"How Food Affects You" (flip chart)
Agricultural Extension Service
University of Minnesota
St. Paul, MN 55101

--This lesson will be most effective if taught following the lesson on Affecting Bodily Well-Being Through Nutrition.

Duplicate copies of the Food Guide for each student.

Divide the class into families of various sizes and composition of ages and members (an all adults family, a family with parents and 2 young children, a 1 parent family, a family with an older adult, a family with a teen-aged child).

Tell the students that in their family groups they are to decide how many servings of foods from each food group are needed by every family member for one day.

Have the families plan a day's menu: breakfast, lunch, dinner, and decide the total amount of food that will be needed by the family for the one day.

NOTE: Snacks are included in the total daily diet, and you may suggest that the families plan snacks too. The number of servings listed in the guide are the minimum amounts. Additional foods should be added as physical activites increase.

This lesson will be most beneficial if the students can actually measure and weigh the serving sizes. For doing this, you will need standard measuring cups and a scale which weighs ounces fairly accurately. (Also see attached information sheet.)

--Work in a family group to plan a day's menu for the family with the required number of servings from the four food groups for each member. Make a shopping list of foods and amounts needed.

Measure and weigh recommended size portions of foods for each family member.

ADDITIONAL ACTIVITIES: Use the grocery section of the newspaper and figure costs of foods planned for family menus, or take a field trip to the supermarket to price the foods on the family menu.

Figure cost of milk for a family each day or week.

Make a pictograph which shows amounts of milk needed by persons for various ages.

For the "families" that finish more quickly than others, a week plan might be completed also.

BACKGROUND INFORMATION

The Food Guide summarizes technical knowledge of nutrition and provides an easy to use pattern. Each of the food groups contain a variety of nutrients. By using the recommended amounts in each food group you will be sure to get enough of all the major nutrients.

The milk group does contribute most of the day's supply of calcium and phosphorous (two building materials in bones and teeth). It also contributes a good share of the day's protein, riboflavin (Vitamin B_2), Vitamins A and D. Growing requires more calcium than that needed for just maintaining body stores. Therefore, children and teenagers need more milk than adults, but everyone needs to have a good supply of calcium.

If milk cannot be used, other food sources of calcium should be substituted. Dark green vegetables, dried beans and peas, salmon and sardines are the next richest sources of calcium.

One cup of milk equals one serving. Foods made with milk are rated as to the amount of calcium they supply. For example, one ounce of cheese has about as much calcium as 3/4 glass of milk. Skim, whole, 2%, or buttermilk are considered to have equal amounts of calcuim.

Fruits and vegetables supply nearly all the Vitamin C in a day's diet. Teaching that a good source of Vitamin C should be eaten everyday is one way to insure an adequate amount of this nutrient.

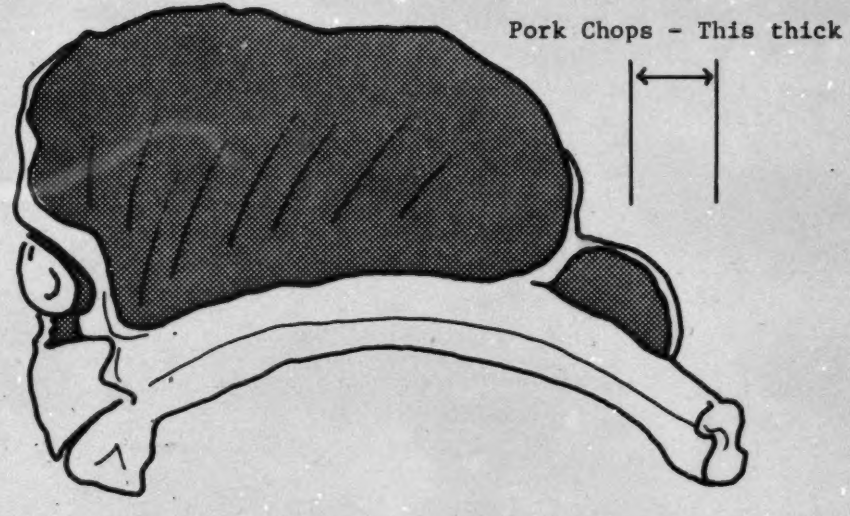
Citrus fruit and juices, tomatoes, peppers, broccoli, sweet and white potatoes, raw cabbage, strawberries, and watermelon, supply significant amounts of Vitamin C. Vitamin C content of frozen and canned foods compares very favorably with fresh produce.

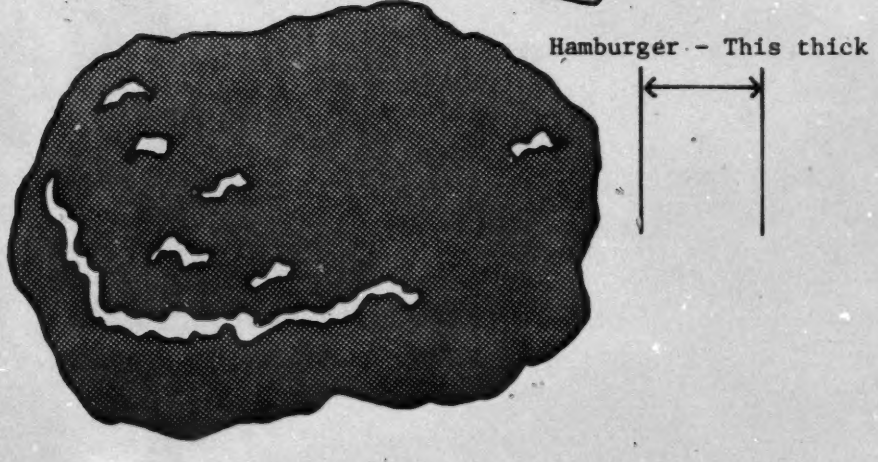
A dark yellow pigment (carotene) found in dark yellow and dark green vegetables can be changed into Vitamin A. Eating a serving of spinach, carrots, squash, sweet potatoes, endive, escarole, pumpkin, peaches, apricots, and cantalope, will take care of a day's needs. Green beans, asparagus, parsley, and tomatoes can help supply Vitamin A.

A serving of fruits and vegetables is one piece or ½ cup of small pieces of that item. It would be fun for the children to measure the vegetables in a school lunch. A Type A lunch should contain 3/4 cup of fruits and vegetables. If this is not possible, macaroni or dried beans can be measured. Placing a ½ cup serving on a school lunch or 8 inch paper plate will help visualize the portion size.

The bread-cereal group supplies energy, as all of the other groups do, plus niacin and riboflavin, and small amounts of protein. One slice of whole grain or enriched bread is used as the standard for a serving. The amounts of other foods needed to make one serving varies with amount of air incorporated in the product. One ounce of ready-to-eat cereal and 1/2 to 3/4 cup of cooked cereal makes about the same nutritional contribution as one slice of bread. Enriching a food means adding selected nutrients so that the level of these in the finished product will equal that of the whole fresh product.

The meat group contains foods of both animal and vegetable origin. Protein, iron, thiamin (vitamin B_1), niacin, are the major nutritional contributions of this group. Two ounces of cooked lean meat are considered one serving. The amounts for one serving of other foods, like peanut butter, are set so they equal the amount of protein found in an average serving of two ounces of meat. Weighing two ounces of cooked meat would be an excellent learning experience for children. If this is not possible, the included pictures show approximate size for a two ounce portion.





Follow the Food Guide Everyday

SOME FOR EVERYONE

MILK GROUP

COUNT AS A SERVING 1 CUP OF MILK

Children 9-12 —— or more

Teenagers —— or more

Adults —— or more

Cheese can be used for part of the MILK

1 slice American cheese (1 oz.) = ⅔ cup milk
⅓ cup creamed cottage cheese = ⅓ cup milk
½ cup ice cream = ¼ cup milk

2 OR MORE SERVINGS

MEAT GROUP

COUNT AS A SERVING 2 OUNCES OF COOKED LEAN MEAT, POULTRY OR FISH — — SUCH AS

A HAMBURGER

OR A CHICKEN LEG

OR A FISH

ALSO-2 EGGS

OR 1 CUP COOKED DRY BEANS OR PEAS

OR 4 TABLESPOONS PEANUT BUTTER

4 OR MORE SERVINGS

VEGETABLE-FRUIT GROUP

COUNT AS A SERVING ½ CUP (RAW OR COOKED)

OR 1 PORTION SUCH AS

OR

OR

4 OR MORE SERVINGS

BREAD-CEREAL GROUP (WHOLE GRAIN OR ENRICHED)

COUNT AS A SERVING

1 SLICE OF BREAD OR 1 BISCUIT

OR 1 OUNCE READY-TO-EAT CEREAL ———

OR ½ CUP TO ¾ CUP COOKED CEREAL,

CORNMEAL, GRITS, MACARONI, RICE, OR SPAGHETTI

✱ EAT OTHER FOODS AS NEEDED TO ROUND OUT MEALS ✱

CONCEPT: Family food traditions

GENERALIZATION: When certain menus are reserved for serving on special occasions by a person, family or group, they become food traditions.

BEHAVIORAL OBJECTIVE: The student will interview an adult to find out about a traditional breakfast menu eaten by them.

* *

-Interview questions prepared by the students

-*"What Did You Have for Breakfast This Morning?"* (poster)
National Dairy Council
111 North Canal Street
Chicago, IL 60606

-Define "traditions" -- the handing down of beliefs and customs by word of mouth or by example without written instruction.

Discuss traditions. See if students can think of traditions in their families. Who started the tradition? Is food a part of the tradition?

Do any of your families have a traditional breakfast? (Teacher: mention yours if you have one). Who in your family decides the occasion for having the traditional breakfast? Do you think it is the same in all families?

Let's interview some adults and find out about their traditional breakfasts and how they began.

Help students prepare interview questions and decide who they will interview to find out about traditional breakfasts. Encourage interviewing a variety of ages and ethnic groups.

Following completion of interviews discuss the traditional breakfast menus with the students and the origin of the tradition.

Have the students place the foods on their menus in the four food groups to learn whether or not the menu is a balanced meal.

-Discuss traditions and traditional breakfasts.
Prepare interview questions.
Interview an adult to learn about a traditional breakfast menu.
Share interview results with class.
Place foods from traditional menus in food groups.

ADDITIONAL ACTIVITIES: If funds and facilities are available plan and prepare a traditional breakfast using one of the menus.

Have students make a map which shows the places the traditional breakfast menus originated.

CONCEPT: The accessibility of foods influences ethnic food customs

GENERALIZATION: The Indians introduced the first white people who came to North and South America to a large number of foods which are available and used in some form at the present time.

BEHAVIORAL OBJECTIVE: The student will name and describe foods which are available today that were used in some form by the native Americans.

* *

--Copies of "Native American Foods" and "A Pima Remembers" (attached)

--*FOOD THE INDIANS GAVE US*
Wilma and R. Vernon Hays
Washburn, Inc.
New York, NY
(Advanced readers in class can use this.)

INDIAN CORN AND OTHER GIFTS
Sigmund A. Lavine
Dodd, Mead & Co.
New York 1974

"What You Can Tell Your Mother About Potatoes" (poster)
The Potato Board
Suite 512, 1385 South Colorado Boulevard
Denver, CO 80222

Potato Eaters – 16 mm. film, 20 minutes (free)
Maine Department of Agriculture
Motion Picture Service
State Office Building
Augusta, ME 04330

North America Before Columbus (map)
National Geographic Society
P.O. Box 1640
Washington, D.C. 20013

--Duplicate "Native American Foods" quiz and give to students. Upon completion of quiz tell students ALL of these foods were used by the Indians but not necessarily in the same form as they may be eaten today.

The attached background information, encyclopedias or the books listed can be used as reference materials in preparing written or visual reports on native American foods which are produced and eaten today.

One aspect of the reports can be to decide which of the food groups the foods belong in in order to determine that the native American ate a balanced diet.

Read "A Pima Remembers." Compare family roles of the native Americans and present day family roles, production and preparation of foods then and now.

--Take "Native American Food" quiz. Check answers with teacher.
Report on the foods listed in the quiz orally or in a class mural.
Prepare and taste food which Indians ate and which is also eaten today.
Read "A Pima Remembers;" compare it to present day living.

ADDITIONAL ACTIVITY: Make a map which shows where the Indian Nations lived. Prepare an "old" American recipe and a "new" one using the same food. (Recipes attached.)

BACKGROUND INFORMATION FOR NATIVE AMERICAN FOODS

Many of the foods we eat today were introduced to the old world by returning explorers. The usefulness of those new foods is shown by their value. One year's crop of maize is worth more than all the gold and silver brought back by the explorers.

Some of the foods became so popular in the old world that we now think of them as basic to old world cuisine. Who can imagine Italian cookery without tomatoes or Irish meals without potatoes?

TOMATO

Thousands of years ago, people in Peru picked tomatoes from vines and bushes growing wild, and even made pots into the shape of the pretty fruit.

The Incas gave seeds to the Aztecs who carried it to Mexico. The Aztecs later taught the Spanish many ways to cook the pretty fruit. The Spainards carried the seeds to the old world and soon were growing fields of tomatoes in many colors -- red, yellow, white, and purple.

By the sixteenth century, the Spaniards and their neighbors were eating tomatoes both raw and cooked. But the French and English thought tomatoes were poison, because they belong to the nightshade family. They called tomatoes love apples because they were pretty to hold, but dangerous to eat. They grew them as decorative plants. It took nearly 300 years after the Spaniards brought them to the old world before nearly everyone accepted tomatoes as good food.

Today 400,000 acres of tomatoes are harvested in the United States for juice, sauce, paste, and catsup. Different varieties of tomatoes have been developed to improve color, texture, hardness and shipping ability. Green houses grow some tomatoes in artificial soil with liquid fertilizer for table use in the winter.

The tomato is sold as a vegetable because of an 1892 Supreme Court case brought by growers who thought it would sell better if displayed next to other vegetables such as potatoes and beans.

POTATOES

Potatoes are called "Irish spuds" which is a misnomer since the pre-Inca's, Indians of South America were cultivating potatoes 6000 years ago. It is not even known when the early Indians learned that the potato was safe to eat since it is a member of the nightshade family, which often bears poison berries above the ground.

Though the Inca civilization was destroyed by Spanish conquerors between 1532 and 1537, a few survivors of this agricultural people escaped and hid in forests and mountain cover and their knowledge of agriculture survived along with them.

White and sweet potatoes are grown and sold in far greater numbers and varieties in South America than we have in the United States.

The Spanish colonists brought potatoes with them when they settled in Florida in 1560 for they kept better on a long sea voyage than most other fresh vegetables and so it was that potatoes returned to America. The English in turn took them back to England after having raided Spain's Florida colonies. In England they were planted and fed to the hogs. Louis XVI of France recognized potatoes as an abundant source of new food for his people and promoted them by wearing sprays of white potato blossoms in his lapel. From England the potato also went to Ireland where the people took to them at once and other Europeans began to think of them as a native Irish food. Almost a hundred years after the Spanish had carried potatoes from the Indians of South American to Spain, English colonists carried them back across the Atlantic to Jamestown and Plymouth.

PINEAPPLE

Pre-Indian pottery designs would seem to indicate that as long ago as 4000 B.C. South America Indians were cultivating pineapples. In Brazil and Central America the wild fruit can still be found. These wild pineapple are woody and full of seeds. Much as the Indians must have found them, Columbus found the fruit on his second trip to the West Indies and by this time using careful selection and cultivation the Indians had produced a much larger and sweeter plant than the wild ones.

The Spaniards who followed Columbus to the West Indies found the Carib Indians growing these fruits which they called "anana." To the Spanish the "anana" looked like a pine cone so they called it a "pina." The English later added "apple" to "pine" and the fruit became known as pineapple.

SQUASH AND PUMPKIN

Squash and Pumpkin may have been the first food plants that were cultivated by the Indians. When the Spanish arrived they found pumpkins being cultivated at all the Rio Grande pueblos. The Hopi, Navajo, Papago and Pima also grew pumpkins.

When the Pilgrims arrived at Plymouth Rock they were introduced to "askoot-asquash" by the New England Indians. This tongue-twister was soon shortened to squash.

The Apache families held a ceremony each year to ensure a good pumpkin harvest. A young boy was sent out to pick a large supply of blue juniper berries. When he returned he was blindfolded and sent into the pumpkin patch where he threw the berries in all directions asking for that many pumpkins.

Both pumpkins and squash were used in many ways. They were boiled; or baked whole in the adobe bread ovens or directly on coals. All the Indians dried quantities for winter use. Pumpkin and squash blossoms were used for salads or soups, and the seeds were also roasted or they were dried and pounded into powder to make breadlike cakes.

Squashes of the long variety were worn as male symbols in the dances. Sometimes squashes with hard rinds were hollowed out and used as water dippers or containers for storage.

STRAWBERRIES

Berries of many kinds were widely used for a great variety of purposes by the Indians. Many berries were used with caution about such things as eating only one at a time so that they would not make a person sick, and certain berries were only used for medicinal purposes.

The Indians of New England were growing such large quantitites of strawberries that Roger Williams wrote about seeing so many of these berries within a mile that they would fill a good ship. A similar small strawberry also grew in Europe where it sold for $30 a pound.

MAPLE SYRUP

The French who settled in Quebec 12 years before the Pilgrims landed at Plymouth learned how to make maple syrup from the Algonquins. The food was a thick syrup from the sap of trees in the region that is now Vermont. It was also used as an energy building medicine.

In early spring, the woodland Indians held a holiday festival when they tapped rock or sugar maple trees. Hollow reed pipes were inserted into a cut in the tree trunk and the sap ran through the pipes into a wooden trough. The sap was boiled slowly for several days until it thickened into syrup. The thickened syrup was poured into a cooling trough and kneaded by the women with their hands until it was thick and creamy. This soft sugar was poured into birch molds. It was then stored to eat as a sweet or to flavor foods such as cornmeal mush.

PEANUTS

Peanuts are another gift from the Indians having originated in Brazil, Uraguay, and Paraguay. They came to the United States with the black men who brought them from Africa. A black scientist, Dr. George Washington Carver, found over two hundred ways to use them.

Peanuts were even unknown in other parts of the world until the Spanish explorers reached South America. Pods of peanuts have been found in the tombs of Indian mummies that are 3000 years old. The Incas, Mayans, and Aztecs decorated handmade pottery bowls with pictures of peanut pods and plants and these ancient varieties looked very much like our peanuts. Indians ate them roasted as we do today or pounded them into a brown paste -- pre-Columbian peanut butter!

CORN

The origin of corn -- or maize -- is perhaps the most mysterious of any food that the Indians have given us. No one has ever found maize growing wild and scientists have never found a wild grass plant that even resembles corn, and yet without maize there could never have been an Aztec civilization in Mexico, or an Empire of the Incas in South America. People must have a secure food supply before they can build a civilization and corn was that food supply for the ancient Indian civilizations.

By the time Columbus found the New World, Indians had been improving corn for at least 6000 years. The first hybrid corn was produced three to four thousand years ago when Indian farmers learned to cross the pollen of two or more pure strains. Columbus found the Indians growing corn in a variety of sizes and colors. There were yellow, red, white, blue, chocolate brown, gray, and black ears. Some were a mixture of several colors. Maize was probably cultivated first in Mexico and from there it spread to most parts of North and South America.

In Plymouth colony the Pilgrims found baskets of corn which had been buried by the Indians. This corn was used for the seed for the first spring's planting and proved to be the difference between life and death.

Corn became the most important food in pioneer America. It was even used for payment of taxes, rent, and debits as there was very little "hard" money.

There are various Indian legends about how corn came to man, and each one is the story of a miracle. Most tribes honored maize in religious ceremonies. We still depend on corn for much of our food today. It is more closely tied to its Indian origins than any other known plant. No one knows where it started its journey but we are fortunate that its travels have carried it around the world.

HOT CHOCOLATE

Hot chocolate is a drink of Aztec kings. The Spanish explorers took this bitter flavored bean back and learned many new ways to make it into beverages. These beverages became so popular that chocolate houses appeared in England in the 17th Century. About 200 years later a process to make solid chocolate for candy was developed.

The cocoa tree grows only in tropical areas and requires protection from sun, wind, and blight. Large pods contain the beans. Fermenting the beans while drying them improves the flavor. By grinding the beans and removing much of the fat (cocoa butter), cocoa is made.

SUNFLOWERS

Sunflowers are the oldest domesticated plant in southwestern United States; it was used before beans, squash, and corn were introduced to the region from southern tribes. Most tribes ground the seeds into a meal used in making soups and cakes.

Sunflowers are easily grown, and quite nutritious. Besides being used as a snack, they are used for animal feed and making oil.

PEPPERS

Like potaotes and tomatoes, peppers are a member of the poisonous nightshade family. Peppers, hot, sweet, or cool, originated in South and Central America. Engraved pottery from pre-Incan graves proved that the Indians cultivated at least a dozen varieties.

The Incas called these plants "aju." Because the Spanish thought the fruits tasted much like the black powder that was ground from small seeds that were grown in the Orient they changed the name to "pimentas." Later "chili" the Aztec name was often used for peppers.

Indians produced hot sauces anu ground pepper by drying the fruits, seeds and all, into a fine powder. For thousands of years they used stones for grinding, as some Indians still do today.

RECIPES FOR NATIVE AMERICAN FOODS

OLD WAY SUCCOTASH (Zuni, New Mexico)

EQUIPMENT

Knife
Large pot
Cutting board
Hot pads
Spoon

FOOD

3 ears of sweet corn
1 cup of partially cooked dried beans such as lima beans
½ to 1 cup tiny pieces of uncooked meat

Cut kernels from ears of corn.
Put in a pot with partially cooked beans and meat.
Cover with water.
Cook until corn, beans, and meat are tender.

Season in one of the following ways:

Add a little chopped red or green pepper
Add a little chopped onion
Add a little sunflower meal -- you can make sunflower meal by grinding sunflower seeds in a mill

NEW WAY SUCCOTASH

EQUIPMENT

Saucepan
Hot pads
Spoon
Measuring spoon

FOOD

1 ounce package frozen lima beans
1 ounce package frozen whole kernel corn
2 tablespoons butter or thick cream
Salt and pepper

Put lima beans in a saucepan.
Add ½ cup water; cook 5 minutes until soft.
Add corn, cover, cook 5 minutes.
Season with salt and pepper to taste.
Add butter or cream.
Bring mixture to a boil, them remove from heat at once.
Eat hot as a vegetable or main dish.

OLD WAY POTATOES -- Baked in hot coals (Inca)

EQUIPMENT

Campfire or charcoal grill
Tong or asbestos mitt
Clay or aluminum foil

FOOD

One potato per child (brought from home is possible)
Salt
Chili peppers

Start fire ahead of time so that only coals will remain. Each potato must be nestled in coals. The size of the class will determine the size needed for the fire.

Wrap the potato in moist clay or aluminum foil. Pottery clay or riverbank clay could be used.

Cover potatoes with coals. Keep fire hot by adding small pieces of fuel. Bake for one hour.

Unwrap. Season. Eat!

NEW WAY -- HASH BROWN POTATOES -- 4 Servings

EQUIPMENT

Bowl
Cup
Frying pan
Pancake turner
Hot pads
Measuring spoons

FOOD

Small box of frozen hash brown potatoes (2 cups)
2 tablespoons finely chopped onions
4 teaspoons flour
1½ teaspoons salt
Pepper
2 tablespoons milk
2 tablespoons cooking fat or oil

Mix potatoes and onions in bowl.
In a cup, mix flour, salt, pepper, and milk.
Add to potatoes and onions.

In the frying pan, heat the oil. Spread potato mixture in the pan evenly, making one large cake that does not touch the sides.

Cook over low heat until the bottom in brown. Cut into four pieces and turn each piece to brown the other side.

OLD WAY CORNBREAD -- WAS-NA (Sioux)

EQUIPMENT	FOOD
Electric skillet	3 cups cornmeal
Large bowl	1½ cups sugar
Spoon	2 cups fat *(use either tallow, lard, margarine or butter)
Hot pads	
Pan (9 x 13)	

Heat cornmeal in skillet until it is very brown.
Stir all the time. Do not burn.
Mix in fat and sugar. (One cup of raisins or dried berries may also be added.)
Press wasna into pan and cool. Cut into squares.

NEW WAY CORNBREAD

EQUIPMENT	FOOD
Mixing bowl	1 cup cornmeal
Measuring spoons and cups	1 cup flour
Flour sifter	¼ cup sugar
Rotary beater, electric mixer	4 teaspoons baking powder
1 -- 8 inch square pan or 1 muffin pan	½ teaspoon salt
Oven	1 egg
	1 cup milk
	¼ cup shortening, soft

Sift together cornmeal, flour, sugar, baking powder, salt into bowl. Add egg, milk, shortening. Beat with rotary beater until smooth, about one minute. Bake in greased 8 inch square pan in 400° oven for 20 to 25 minutes. Or fill muffin cup 2/3 full and bake for 15 to 20 minutes.

NATIVE AMERICAN FOODS QUIZ

Read the list of foods below. Some of the foods can be called native American foods because they were used by the first American citizens -- the Indians -- before the white man came to America.

Place a check beside the foods that are made from native American foods.

.....Catsup

.....Peanut butter sandwich

.....Cornbread

.....Maize

.....Sweet Potato

.....Pineapple upside down cake

.....Corn meal pancake -- maple syrup

.....French fries

.....Pumpkin pie

.....Strawberry shortcake

.....Baked squash

.....Hot chocolate

.....Succotash

.....Roast turkey -- wild rice dressing

.....Plum preserves

.....Chili peppers -- sunflower seeds

Now your teacher will tell you how many foods you should have checked.

How many correct choices did you make?.....

A PIMA REMEMBERS
George Webb
University of Arizona Press
Tuscon 1959

Now another day is coming,
Awake from slumber,
Look toward the east,
See the rising of the sun,
Which means another day to toil
Another day to hunt for meat,
To put the seed in the ground
That the yield might be good,
So our people may not go hungry.
The great Father provided us the sun
To give life to our earth so
That it might give us a good yield
And that we might see
To hunt our game for meat.
So arise and make use of the day
And do not get in the way
Of the women as they go about
Fixing up the camp and the
Needed task of preparing meals for you.
Many moons, many suns have come and gone
Since our forefathers here on this same ground
Toiled and struggled so that we might
Enjoy life today.
So let us not waste this day.
But get your tools, go out to the field, or
Take down your bow and arrows
And go after the game, so that
Your family will not be in need of meat.
So now I hope you will strive
To make this day the best in your life.

CONCEPT: Supply of money affects food choices

GENERALIZATION: The amount of money available for purchasing food influences food choices.

BEHAVIORAL OBJECTIVE: The student will evaluate several party menus in order to determine which can be purchased with a specified amount of money and will grade the menus for nutritional value received for money spent.

* *

--Copies of attached party menu-report cards for students

-Present the lesson after teaching the concept Models for Diet Selection.

Duplicate copies of menu-report cards.

Divide class into eight groups. Give each group a menu-report card.

Tell the students that 20 cents per person is the amount of money to be spent for party food. Have them figure the cost of food on their menu. Explain that some of the menus have more foods selected from the four food groups than others and ask them to check these foods on their report card and give the menu a grade.

NOTE: A sample menu-report card is included. You may wish to make a transparency of this to show the class the procedure they will use. Students may have difficulty placing the fruit flavored drink, grape punch, red Kool-Aid, orange drink mix (Tang) in a food group. These products do not contain enough fruit to be placed in the fruit and vegetable group so they cannot be placed in any of the foods group.

Discuss menus with the class.

--Fill in menu-report cards.
Tell class about menus.

ADDITIONAL ACTIVITY: Plan a class party menu. Try to make it a grade "A" menu.

Sample

REPORT CARD FOR A PARTY MENU

Number of
People in Class _____

	Cost for each person	Cost for all the class
Strawberry drink mix	.04	.....
Cupcakes	.15	.....
TOTAL	____	*_____

CHECK THE FOOD GROUPS INCLUDED IN THIS MENU

Milk Group _____

Meat Group _____

Fruit and Vegetable Group _____

Bread and Cereal Group _____

NUMBER OF GROUPS CHECKED *____

HOW TO GRADE

A - Price O.K. plus 3 or more food groups

B - Price O.K. plus 2 food groups

C - Price O.K. plus 1 food group

D - Price O.K. plus no food groups

F - Price too high

GRADE ★____

REPORT CARD FOR A PARTY MENU

Number of
People in Class_____

	Cost for each person	Cost for all the class
Oatmeal cookie	.10	.....
Rootbeer, 1 cup	.10	.....
TOTAL	_____	*_____

CHECK THE FOOD GROUPS INCLUDED IN THIS MENU

Milk Group _____

Meat Group _____

Fruit and Vegetable Group _____

Bread and Cereal Group _____

NUMBER OF GROUPS CHECKED *____

HOW TO GRADE

A - Price O.K. plus 3 or more food groups

B - Price O.K. plus 2 food groups

C - Price O.K. plus 1 food group

D - Price O.K. plus no food groups

F - Price too high

GRADE ★____

REPORT CARD FOR A PARTY MENU

Number of
People in Class_____

	Cost for each person	Cost for all the class
Soda pop	.08	.....
Ice cream bar	.15	.....
Chocolate Candy Bar	.15	.....
	_____	*_____

CHECK THE FOOD GROUPS INCLUDED IN THIS MENU

Milk Group _____

Meat Group _____

Fruit and Vegetable Soup _____

Bread and Cereal Group _____

NUMBER OF GROUPS CHECKED *____

HOW TO GRADE

A - Price O.K. plus 3 or more food groups

B - Price O.K. plus 2 food groups

C - Price O.K. plus 1 food group

D - Price O.K. plus no food groups

F - Price too high

GRADE ★____

REPORT CARD FOR A PARTY MENU

Number of
People in Class_____

	Cost for each person	Cost for all the class
Canned Fruit Juice 1 cup	.09	.....
Doughnuts	.09	.....
TOTAL	_____	*_____

CHECK THE FOOD GROUPS INCLUDED IN THIS MENU

Milk Group _____

Meat Group _____

Fruit and Vegetable Group _____

Bread and Cereal Group _____

NUMBER OF GROUPS CHECKED *____

HOW TO GRADE

A - Price O.K. plus 3 or more food groups

B - Price O.K. plus 2 food groups

C - Price O.K. plus 1 food group

D - Price O.K. plus no food groups

F - Price too high

GRADE ★____

REPORT CARD FOR A PARTY MENU

Number of
People in Class_____

	Cost for each person	Cost for all the class
Milk - ½ pint	.10	.....
Raisins - very small box	.05	.....
Graham Crackers - with frosting	.05	.....
TOTAL	_____	*_____

CHECK THE FOOD GROUPS INCLUDED IN THIS MENU

Milk Group _____

Meat Group _____

Fruit and Vegetable Group _____

Bread and Cereal Group _____

NUMBER OF GROUPS CHECKED *____

HOW TO GRADE

A - Price O.K. plus 3 or more food groups

B - Price O.K. plus 2 food groups

C - Price O.K. plus 1 food group

D - Price O.K. plus no food groups

F - Price too high

GRADE ★____

REPORT CARD FOR A PARTY MENU

Number of
People in Class_____

	Cost for each person	Cost for all in the class
Canned Grape Punch	.04	.....
Pizza - sausage very small	.16	.....
TOTAL	_____	*_____

CHECK THE FOOD GROUPS INCLUDED IN THIS MENU

Milk Group _____

Meat Group _____

Fruit and Vegetable Group _____

Bread and Cereal Group _____

NUMBER OF GROUPS CHECKED *____

HOW TO GRADE

A - Price O.K. plus 3 or more food groups

B - Price O.K. plus 2 food groups

C - Price O.K. plus 1 food group

D - Price O.K. plus no food groups

F - Price too high

GRADE ★____

REPORT CARD FOR A PARTY MENU

Number of
People in Class_____

	Cost for each person	Cost for all the class
Cocoa (from mix with milk)	.08	.....
Apple	.09	.....
Animal crackers	.03	.....
TOTAL	_____	*_____

CHECK THE FOOD GROUPS INCLUDED IN THIS MENU

Milk Group _____

Meat Group _____

Fruit and Vegetable Group _____

Bread and Cereal Group _____

NUMBER OF GROUPS CHECKED *_____

HOW TO GRADE

A - Price O.K. plus 3 or more food groups

B - Price O.K. plus 2 food groups

C - Price O.K. plus 1 food group

D - Price O.K. plus no food groups

F - Price too high

GRADE ★_____

REPORT CARD FOR A PARTY MENU

Number of
People in Class_____

	Cost for each person	Cost for all the class
Orange	.09	.....
Potato Chips - very small bag	.10	.....
TOTAL	_____	*_____

CHECK THE FOOD GROUPS INCLUDED IN THIS MENU

Milk Group _____

Meat Group _____

Fruit and Vegetable Group _____

Bread and Cereal Group _____

NUMBER OF GROUPS CHECKED *____

HOW TO GRADE

A - Price O.K., plus 3 or more food groups

B - Price O.K. plus 2 food groups

C - Price O.K. plus 1 food group

D - Price O.K. plus no food groups

F.- Price too high

GRADE ★____

REPORT CARD FOR A PARTY MENU

Number of
People in Class_____

	Cost for each person	Cost for all the class
Cherry Drink - mix	.04	.....
Chocolate Candy Bar small	.15	.....
TOTAL	_____	*_____

CHECK THE FOOD GROUPS INCLUDED IN THIS MENU

Milk Group _____

Meat Group _____

Fruit and Vegetable Group _____

Bread and Cereal Group _____

NUMBER OF GROUPS CHECKED *_____

HOW TO GRADE

A - Price O.K. plus 3 or more food groups

B - Price O.K. plus 2 food groups

C - Price O.K. plus 1 food group

D - Price O.K. plus no food groups

F - Price too high

GRADE ★_____

CONCEPT: Affecting dental health through nutrition

GENERALIZATION: The combination of bacterial plaque and sugar forms an acid which causes tooth decay.

BEHAVIORAL OBJECTIVE: The student will name several snack foods which they eat that contain sugar and several snack foods to eat instead to prevent formation of bacterial plaque.

* * * * * * * * * * * * * * * * * * * *

--Comic strip "Polly" (attached)
Pattern for Word Search Puzzle (attached)
The Tooth Decay Chain (attached)

- *"Learning About Your Oral Health -- Level II"*
American Dental Association
211 East Chicago Avenue
Chicago, IL 60611

"Showdown at Sweet Rock Gulch" (film -- free rental)
American Dental Association
Bureau of Audiovisual Service
211 East Chicago Avenue
Chicago, IL 60611

"Research Explores Nutrition and Dental Health" (free teacher reference)
U.S. Department of Health, Education, and Welfare
Available from Minnesota Department of Health No. D6
717 Delaware Street S.E.
Minneapolis, MN 55440

--Duplicate materials for students use -- comic strip, Word Search Puzzle.

The Tooth Decay Chain should be made by the teacher prior to doing this lesson. Display it on a bulletin board or other prominent place in the classroom. Assist students in decoding Polly's idea after reading the comic strip. The Tooth Decay Chain model is the de-coded message.

Code: The position of the letter in the alphabet is its number.

Have each student make a list of favorite snacks. From the students lists make a composite snack list on the chalkboard or overhead projector. Have students take turns circling snacks which contain sugar.

Snacks and other food which contain sugar are called "trigger foods." The students might try to recall the sugar containing foods they have eaten in a given day to find out how often their teeth have been exposed to acid.

Help students do a word search puzzle like the sample attached using their own words, which are sugar free snack foods. They may work in groups to make puzzles. These could be duplicated when completed so students can work each others.

Read "Polly the Polar Bear." Decode Polly's idea.
Make a list of favorite snack foods. Determine which ones contain sugar.
Make word search puzzle using foods which are sugar free.
Share word search puzzle with class members.

BACKGROUND INFORMATION FOR FOODS WITH ADDED SUGAR

Foods containing sugar can be said to trigger tooth decay. The bacterial plaque quickly use the sugar to produce an acid which attacks the tooth enamel. Each attack lasts about 30 minutes after a sugar containing food is eaten. The more times sugar containing foods are eaten, the higher the acid level in the mouth will remain.

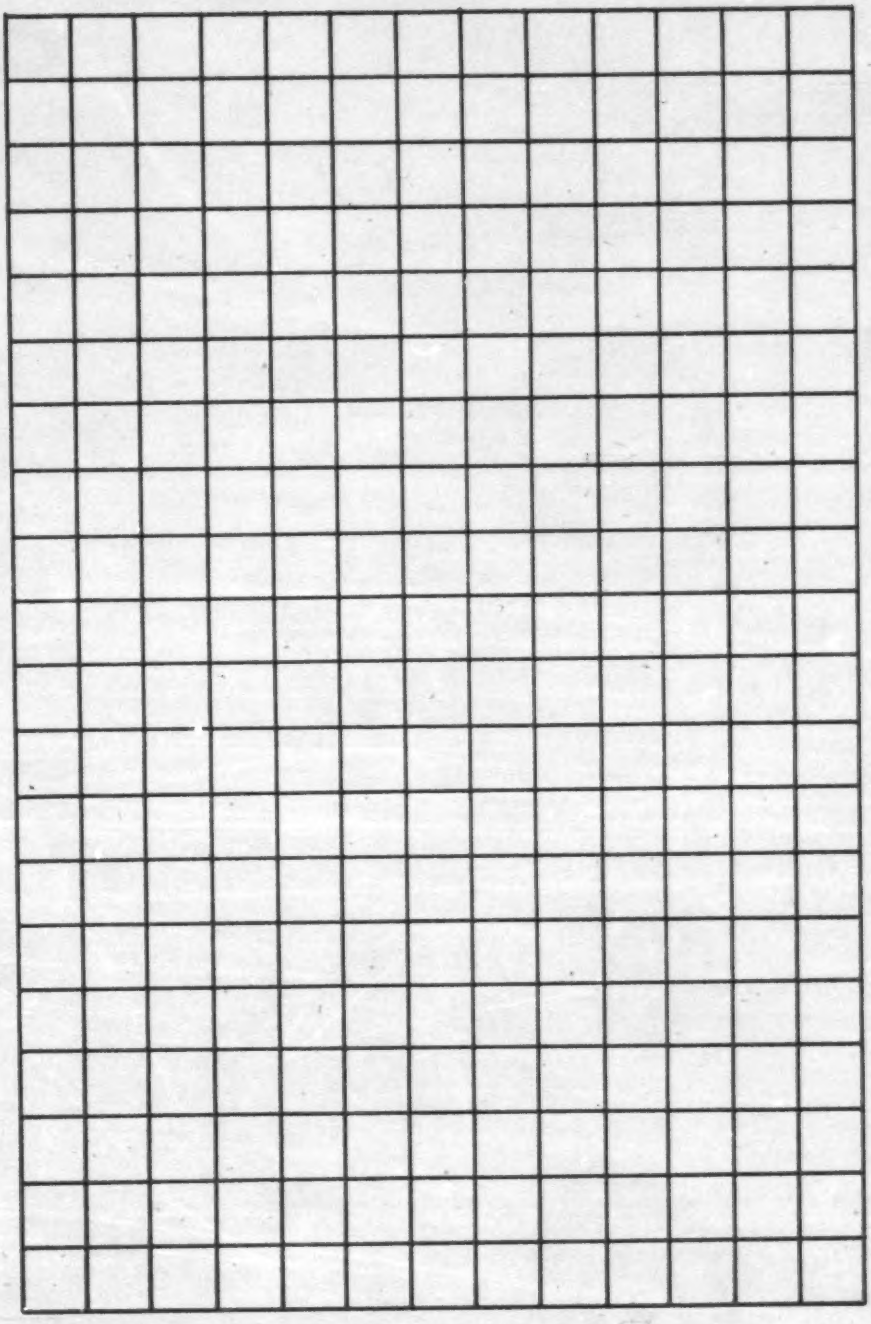
Sugar is added to many foods commonly used as snacks. Sugary foods which stick to tooth surfaces are the most likely to promote cavity formation. Candy such as taffy, chewy candy bars, and caramels are the worst offenders.

Solid foods containing sugar are more likely to promote cavity formation than sugar sweetened liquid foods. The amount of sugar eaten does not affect the number of cavities formed as the frequency with which sugar containing foods are eaten. Frequent snacking with sugar containing foods is the habit to avoid.

Some commonly eaten snacks that contain sugar are all kinds of candy, sugared gum, cookies, cake and frosting, pie, breakfast cereals containing sugar, gelatin desserts that include sugar, caramel corn, jams and jellies, ice cream, sherbet, sweet rolls, doughnuts, chocolate milk, milk-shakes, cocoa, sweetened pop, and sweetened fruit flavored drinks. Corn syrup, molasses and honey are as likely to produce cavities as table sugar. Foods sweetened with these should also be avoided.

Polly the polar bear
A True Story
from Chicago's Lincoln Park Zoo
I love berries, fish and....
Gotcha
my new home isn't too bad lots of visitors
This new food tastes yummy
grgrgr... ow ow ow
Help me!
OK, but I'll have to pull that tooth
I wonder if candy has anything to do with losing my tooth ?!?
I've got an idea!
2-1-3-20-
5-18-9-1*16-
12-1-17-21-5+
19-21-7-1-18=
1-3-9-4*1-3-
9-4+20-15-
15-20-8=
4-5-3
1-25
TRY TO DECODE POLLY'S IDEA.
4-34

Word Search Puzzle



SNACK FOOD LIST

Cut strips out. Cut two blank strips the same size. Make a paper chain; arrange the links as follows: the tooth decay chain, (blank), Bacteria + Sugar = Acid. (blank), Acid + Tooth = Tooth Decay. Tape or paste ends of strips together.

1.

The Tooth Decay Chain

2.

Bacteria

3.

+Sugar

4.

= Acid

5.

Acid

6.

+Tooth

7.

= Tooth Decay

CONCEPT: Treating foods to prolong safe usage

GENERALIZATION: Appearance and cost of processed foods may vary depending on the method of preservation used.

BEHAVIORAL OBJECTIVE: The student will compare foods preserved by various methods, noting differences in appearance and flavor, cost, and label information.

* * * * * * * * * * * * * * * * * * * *

--A selection of foods preserved by more than one process, e.g. frozen, canned, freeze dried green peas
Package labels from the foods selected
Comparison Chart (sample attached)
Scale -- if available
Paper plates
Resource Person: (F.D.A.) U.S. Food and Drug Administration Officer

--*"Read the Label, Set a Better Table"* (free loan film)
Blanche Erkle
Consumer Affairs Office
240 Hennepin Avenue
Minneapolis, MN 55401

"Food News -- (Metrics/Labeling)"
National Dairy Council
111 North Canal Street
Chicago, IL 60606

"It's On The Label" (pamphlet)
Home Economics -- Consumer Service
National Canners Association
1133–20 Street N.W.
Washington, D.C. 20036

--Duplicate individual comparison charts or make a large class chart.

Set out several samples of foods processed by the various methods.

Assist student: in noting the difference in color, texture, flavor, odor of the foods processed by the various methods.

Assist student in reading the labels and recording container weight and cost and in compiling unit price e.g. cost per unit of measure such as cost per ounce.

Invite F.D.A. Officer to speak to students to explain the purpose of the agency and what the duties of a food inspector are.

--Compare foods displayed for differences noted between preservation methods.
Read and interpret label information.
Weigh foods to verify label weights.
Record findings on comparison chart.

Comparison Chart for Processed Foods

Name of Food	Process Used	APPEARANCE			LABEL INFORMATION		
		Color	Flavor	Texture	Container Weight	Container Cost	Unit Price

CONCEPT: Effects of advertising on food choices

GENERALIZATION: Advertising frequently influences food choices.

BEHAVIORAL OBJECTIVE: The student will write newspaper advertisements which will influence food buying.

* *

--Grocery advertisements from newspaper and/or community circulars
A collection of food packages and labels

Show students several grocery advertisements from the newspapers or circulars. Ask students if they ever read these ads? Ask who would be most likely to read these ads? What is the purpose of these ads? How do newspaper food ads influence food buying? Who writes the ads? Would the person who writes them need any special training for the job?

Display food packages and labels.

Divide the class into groups. Each group will select several foods. After reading information on packages and labels the groups will write food ads which will influence people to buy these foods.

NOTE: Price should not be the only influencing factor. Make sure the students pick out other things which could influence purchase of these foods.

Discuss and display completed food ads.

--In groups, select foods to advertise. Write food ads.

Discuss food advertisements of each group.
Prepare a display of the class ads.

ADDITIONAL ACTIVITY: Interview a person who writes food advertisements for a supermarket or newspaper.

CONCEPT: Storage conditions affect egg cookery

GENERALIZATION: The conditions under which eggs are stored affect their quality as well as taste and appearance when cooked.

BEHAVIORAL OBJECTIVE: The student will observe differences in eggs stored at room temperature and in refrigerator, and the changes in eggs as they are cooked.

* *

-Worksheet (attached)
One dozen eggs
Electric skillet or equivalent equipment
Small paper plates
Access to refrigerator
Saucer
Small glass jar
Cooking spoon
Salt
Flashlight

-*"Let's Have Eggs"* -- No. 314
Agricultural Extension Service
University of Minnesota
St. Paul, MN 55101

"Eggs" -- HS-21
Agricultural Extension Service
University of Minnesota
St. Paul, MN 55101

-Duplicate copies of the worksheet.

Direct the students in conducting the experiments.

Summarize the results of class experiments.

Explain that the grades of eggs are affected by age and storage conditions. Nutritional value is not altered by grade, but the cooking quality of eggs is. Help students define poach, protein, particles, and simmer.

-Conduct experiments.
Complete worksheets.

ADDITIONAL ACTIVITY: Make scrambled eggs to show the difference in appearance when the white and yolk of egg are mixed before cooking.

OBSERVATION ONE

- Crack an egg onto a paper plate.
- Find the yolk, the white, the chalaza (it is the thick, white, cord that holds the yolk in place). Describe the shape of the white comparing it to the pictures found in *"Let's Have Eggs."* What grade is this egg?

OBSERVATION TWO

- Store equally fresh eggs. Put each egg, large end up, in a part of a paper egg carton. Put one egg in the refrigerator, put one in a "safe," warm place in the room. After several days, crack each egg onto a paper plate. What are the differences in appearance and odor? Can you grade each egg using the pictures in *"Let's Have Eggs"*?

OBSERVATION THREE

Use very fresh eggs. Unless they are Grade A, the whites will mix with the water.

- Fill a clear small jar ½ full of water. Crack an egg into the jar. Stir until all the water is the same color. Did the egg dissolve in water?
- Hold a piece of black paper behind the jar. Shine a flashlight through the side of the jar. Can you see the light inside the jar? The light is reflecting off of particles of protein. The egg is only broken into very small pieces and is not dissolved in water.

Will the egg dissolve when you poach it?

- Pour water into a skillet so that it is about two inches deep. Add about ¼ teaspoon salt. Heat the water until it simmers (very, very hot and steaming but not boiling with large bubbles).
- Crack an egg into a saucer. Slide the egg into the water. Cover the skillet and cook five minutes or until yolk is as firm as you want it. You might try cooking one egg until the yolk is cooked very hard. Lift the egg out of the water and drain. Eat while still hot with salt and pepper if you like.
- Can you think why the egg didn't break up in the hot water? What are some changes in the egg after it is cooked?

The egg didn't mix with the water because the water cooked a thin layer of the white so quickly it formed a film. Then the egg would need a lot of stirring to mix it with water.

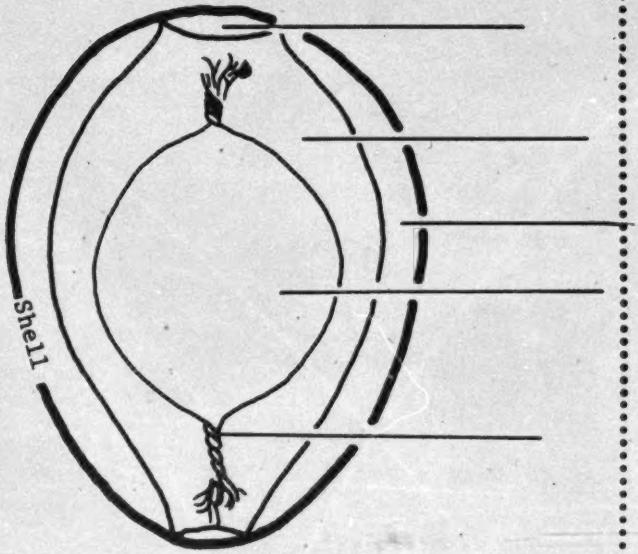
The white of the egg becomes solid and opaque. If the water were boiling too hard, the white may be rubbery. The yolk changes to a lighter yellow.

Draw a line from each word to the phrase which gives the meaning of the word.

Poached	a very small piece of protein
Simmer	not quite boiling
Protein	a nutrient found in eggs
Particle	cook slowly in a liquid such as water

Eggs are used in many recipes. Name some foods that use whole eggs and some other foods that use separated eggs.

What are the parts of an egg?



Which egg is

?

CONCEPT: Effect of peer influence on food habits

GENERALIZATION: Food preference may be influenced by prejudices of individuals or peers.

BEHAVIORAL OBJECTIVE: The student will role play a situation in which classmates are persuaded to taste a new food.

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--Food(s) not eaten regularly by the majority of the class:
liver
rutabaga
strong flavored cheese
avocado

--*SEED CATALOGS*
CANNING AND FREEZING BOOK
ENCYCLOPEDIA
VEGETARIAN COOKBOOK
ETHNIC COOKBOOKS

--Choose students for role play or involve everyone in role play by dividing the class into groups.

Explain the role play situation: a student is eating an unfamiliar food. Several classmates who happen to be watching comment negatively about the food. The student eating the new food tries to persuade the others to taste it. Some are persuaded, some are not.

Discuss outcomes of role playing: should everyone try a new food when it is offered? Why? Why not? Who and/or what often influences food likes and dislikes?

NOTE: This would be an opportunity to discuss feelings. How did the student eating the new food feel about the negative comments? How did the students making the comments feel?

Suggest that the students compile a list of never eaten or unfamiliar foods using seed catalogs, cookbooks, encyclopedias.

Let students who have tasted any of the foods in the list describe them to the class.

--Role play.
Discuss results of role play, discuss feelings.
Compile list of never eaten foods.